

American Trans Air 7337 West Washington Street Indianapolis, IN 46231-1300 Mail to: P.O. Box 51609 Indianapolis, IN 46251-0609 Tel: (317) 247-4000 ata.com

March 11, 2003

Docket Management System U.S. Department of Transportation Plaza 401, 400 Seventh Street, SW., Washington, DC 20590–0001

Docket number FAA-2002-14081

Dear Sir or Madam:

American Trans Air (ATA) wishes to submit the following comments in regards to Docket number FAA–2002–14081. This document is submitted in the form specified in the docket, specifically "The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data."

Reference:

§ 121.346 ATC transponder operation.

(a) After March 29, 2005, no person may operate an airplane unless that airplane has the capability to allow each flight crewmember to quickly activate the ATC transponder Mode 3A beacon code "7500" through a single action that includes protection from inadvertent activation.

Supporting commentary from "Background" section of NPRM:

Paragraph (a) of the proposed rule would require that a single action would immediately set the airplane's ATC transponder Mode 3A beacon code to "7500," which would be picked up by ATC ground surveillance radar. The proposal would require the "single action" method of activation, for example a switch or a button, to be accessible to both the pilot and copilot (and flight engineer, where appropriate). The FAA believes that activation through a single action would greatly enhance the flight crew's ability to quickly enable the transponder hijack alert code and thus ensure faster recognition of the hijack situation by ATC. However, the FAA also has determined that there should be a means to protect against unintentional activation of the hijack alert code. Therefore, as an example, a motion that lifts a guarded switch or breaks a frangible wire in the process of activation would still be considered a single action.

Supporting commentary from "Initial Economic Evaluation, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment" section of NPRM:

It is designed to ensure immediate ATC notification of a hijack situation, and to assist in maintaining ATC tracking of the hijacked airplanes for purposes of national security. As such, the benefits of this proposed rule are to ensure the security of the American public.

The cost of another catastrophic terrorist act cannot be reasonably measured in dollars. As it was witnessed on September 11, terrorist acts can result in the complete destruction of an aircraft with the loss of all on board, and with collateral damage far exceeding that of the aircraft and passengers. The main benefit related to this proposed rule is the averted loss of life by taking corrective action.

The economic and social costs of the September 11 attacks have been measured in the billions of dollars, and another terrorist attack could be far more costly. Therefore, the FAA attributes the benefits of this proposed rule to the series of rules designed to ensure the safety and security of the American public. Such benefits cannot be reasonably quantified nor allocated between the multiple actions taken to avoid a repeat of the attack. In addition to preventing the extraordinary costs of another attack, this proposed rule responds to the interest of the U.S. Congress as specified in the Aviation and Transportation Security Act.

The estimated capital cost to upgrade airplanes with transponders capable of continuous operation in hijack mode is approximately \$3,000 for each airplane.

Accordingly the FAA believes that the proposed rule is cost-beneficial and is necessary to ensure the level of aviation security expected by the American public.

Submitter's comments:

The proposed date of compliance is unacceptable, would impose an undue burden upon this operator, and is not consistent with the recommendations of the FAA-Industry Transponder Task Force Report, which was provided to Margaret Gilligan Deputy Associate Administrator for Regulation & Certification, Federal Aviation Administration on or about November 5th, 2001. Specifically, the FAA-Industry Transponder Task Force Report stated that a minimum of fifty-two (52) months (4.33 years) would be required to retrofit the U.S. air carrier fleet, with a Method 1 transponder software based change. The fifty-two (52) month estimate did not include installation of a "single action" activation method, or "secure power" alterations, both of which would entail significant design and certification efforts further increasing the original estimate.

For the above reason, American Trans Air (ATA) opposes the March 29, 2005 proposed rule compliance date. Should the FAA insist upon implementation of this rule, in its current or a revised form, a minimum fifty-two (52) months should be provided between the effective date of the rule, and the compliance date.

ATA opposes the rule requirement that each flight crewmember be able to quickly activate the ATC transponder Mode 3A beacon code "7500" through a single action that includes protection from inadvertent activation. This requirement is not consistent with the recommendations of the FAA-Industry Transponder Task Force Report. Specifically, the FAA-Industry Transponder Task Force Report stated that such a provision was optional, and based its economic and implementation estimates on these assumptions. Reference the FAA-Industry Transponder Task Force Report Section IV. 2. "Initial Assumptions:" for a detail of the assumptions utilized in development of the report.

ATA also notes that application of the protection from inadvertent activation requirement has already been shown to be subject to failure. Reference the incident on January 11, 2002 regarding Delta Airlines Flight 1874 from ATL to DCA. In this case it has been reported that exactly the methods suggested in the NPRM to protect the system from inadvertent activation were not effective, placing the crew and passengers at substantial risk.

ATA finds the Federal Aviation Administration's statements under the "Initial Economic Evaluation, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment" section of NPRM to be woefully inaccurate. Further the FAA's cost assessment is not consistent with the FAA-Industry Transponder Task Force Report, section VI "Cost/Schedule:" header, and does not adequately address the additional costs associated with the "single action", "annunciation", or "secure power" elements contained in the rule, which were not assumed components of the alteration discussed in the FAA-Industry Transponder Task Force Report.

Due to the substantial disparity in the FAA's stated cost benefit analysis relative to that contained in the FAA-Industry Transponder Task Force Report, ATA may find it necessary to request the Office of Management and Budget, and the Congressional Budget Office audit the FAA's methods and compliance with USC TITLE 2 - THE CONGRESS, CHAPTER 25 - UNFUNDED MANDATES REFORM, Section 1532 (a), (3); Section 1535 (a); and Section 1536 to determine if all provisions have been complied with to the fullest extent and intent of the law.

ATA does not concur that the proposed rule will be effective in preventing another attack.

ATA does not concur that the proposed rule is cost-beneficial, or is necessary to ensure the level of aviation security expected by the American public. Rather, it is entirely arguable that imposition of this rule may further erode the American public's confidence in the safety of air travel, by increasing the risk of inadvertent or inappropriate military action against a civil airliner. Such a position is warranted; based upon prior precedence, reference the actions taken regarding Iran Air flight 655, July 3rd, 1988.

Reference: (b) Upon activation of the ATC transponder Mode 3A beacon code, as described in paragraph (a) of this section: (b) (1) The ATC transponder must continue to report the airplane's altitude;

Supporting commentary from "Background" section of NPRM

Paragraph (b) of the proposed rule would require that three conditions be met upon activation of the hijack alert code. Paragraph (b)(1) would require that the transponder's Mode C, or altitude reporting function, be maintained with activation of the hijack alert code. Altitude reporting would help ATC positively identify the hijacked airplane, and keep other aircraft safely out of its projected path.

Submitter's comments:

ATA opposes this rule in its entirety. Should the FAA insist upon implementation of this rule, in its current or a revised form, this requirement could be found acceptable if implemented in a manner consistent with the FAA-Industry Transponder Task Force Report, Method 1 proposal.

Reference: (b) Upon activation of the ATC transponder Mode 3A beacon code, as described in paragraph (a) of this section: (b) (2) There must be a visual indication to the flight crew that the activation has occurred; **and** (b) (3) A person onboard that airplane must not be able, by reasonable means, to disable the transponder or change its code during the remainder of the flight. In this case, the pilot-in-command need not comply with the requirements of § 91.217(a) of this chapter.

Supporting commentary from "Background" section of NPRM

Paragraph (b)(2) would require that a visual indication be provided to the flight crew as positive feedback of activation. A recent incident has shown the FAA the importance of this feedback to the flight crew. An airplane with a system similar to that proposed by this rule departed on a flight without realizing that the hijack alert code had been activated. Upon takeoff, ATC immediately detected the hijack alert code and challenged the flight crew.

The airplane subsequently returned to its departure airport, escorted by two military fighter aircraft. On further investigation, it was determined that the airplane's hijack alert code had been activated unintentionally by ground personnel. Had the flight crew been provided a visual indication that the system had been activated, the crew could have corrected the situation before departure, averting a cost to the airline and disruption to the flow of the local air traffic.

Paragraph (b)(3) would require installation considerations to help ensure continuous operation of the ATC transponder hijack alert code once it is activated. The FAA believes that continuous operation considerations should include inhibiting any further inputs from the ATC transponder control panel, for example any attempts to change beacon codes or to switch the transponder to standby, as well as for improving the security for electrical power to the transponder equipment. In addition, the FAA believes that resetting the ATC transponder to a normal mode of operation should be through a ground action by appropriate personnel. Where practical, this resetting action should not be accessible from within the airplane.

Supporting commentary from "Initial Economic Evaluation, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment" section of NPRM

The software or hardware investment is only a portion of the cost to the industry. Locking a transponder into continuous operation is a relatively inexpensive and easy solution. Every transponder manufacturer claimed that a software upgrade would not require any downtime. The transponder could be removed from the airplane in a matter of minutes, replaced by a substitute transponder while the software upgrades were implemented (airlines indicated an abundance of transponders), and then reinstalled. The simplest, and quickest, solution for some operators is a transponder software upload, which is expected to be on the market for less than \$3,000, and which could be accomplished on the airplane (that is, the transponder would not have to be removed). This update could be accomplished in about 5 minutes, and would allow the transponder to lock out all other inputs after the hijack alert code is entered. To comply with the proposed rule, operators also would need to install a method of rapid activation and isolate electrical power to the transponder control equipment.

Submitter's comments:

ATA opposes paragraph (b) (2) of the proposed rule, and notes it is not consistent with the recommendations of the FAA-Industry Transponder Task Force Report. Specifically, the FAA-Industry Transponder Task Force Report stated, "there should be no obvious indication that the hijack signal is being transmitted"

ATA disagrees with the FAA position that the "visual indication" required by the proposed rule would have prevented the interception and risk posed to Delta Airlines Flight 1874 on January 11th, 2002. Dependent upon the method of integration, such an indication might not be activated until after the air / ground transition has occurred. Regardless, any meaningful response to the transmission of a Mode A code 7500 by an aircraft would have to assume that the flight deck had been compromised, and that any attestations by the supposed flight crew of "inadvertent" activation be ignored. Any lesser response would substantially degrade any benefit such an installation purports to provide.

ATA also notes that in an installation compliant with the proposed rule, the FAA's assertion that the costs to the airline and economy imposed by the disruption of service due to an inadvertent activation incident could not be corrected by the crew prior to departure, as a maintenance action is required to "reset" the system.

ATA opposes the proposal contained in paragraph (b) (3) requiring that a person onboard that airplane must not be able, by reasonable means, to disable the transponder ... during the remainder of the flight. This requirement is not consistent with the recommendations of the FAA-Industry Transponder Task Force Report. Specifically, the FAA-Industry Transponder Task Force Report stated that such a provision was optional, and based its economic and implementation estimates on these assumptions. Reference the FAA-Industry Transponder Task Force Report Section IV. 2. "Initial Assumptions:" for a detail of the assumptions utilized in development of the report.

The proposal contained in paragraph (b) (3) adds a substantial additional design, certification, and economic burden to this proposal, which was not addressed by the FAA-Industry Transponder Task Force Report. This proposal is further diluted by the statement "by reasonable means". As was clearly shown on September 11th, 2001, the adversaries against whom this proposal is targeted have proven to embrace unorthodox and (by Western society standards) unreasonable means to achieve their objectives. It is therefore not "reasonable" to suggest that these adversaries would not resort to operation of the aircraft outside of its normal limitations, or be unwilling to damage the aircraft to complete their mission.

ATA considers it entirely reasonable to believe that the adversaries toward which this rule is directed would be willing to degrade the aircraft in any manner required to eliminate the transponder transmission, if it would increase the probability of mission success. This issue was adequately discussed in the FAA-Industry Transponder Task Force Report, which stated the following in the Executive Summary "For several reasons, complete assurance of electrical power is infeasible". Extraordinary modification efforts to prevent the removal of power can be defeated. For example, in some wide body airplanes, transponder units and their power wiring, are accessible, and therefore, are vulnerable to damage or disconnection while in flight, for this reason alone if the flight deck door required by Amendments 25-106 and 121-288 is breached, the changes mandated by the proposed paragraph (b) (3) will at best be a nuisance to our adversaries, and a substantial economic burden to ourselves.

ATA finds the Federal Aviation Administration's statements under the "Initial Economic Evaluation, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment" section of this NPRM to be woefully inaccurate. Further the FAA's cost assessment is not consistent with the FAA-Industry Transponder Task Force Report, section VI "Cost/Schedule:" header, and does not adequately address the additional costs associated with the "annunciation", or "secure power" elements contained in the rule, which were not assumed components of the alteration discussed in the FAA-Industry Transponder Task Force Report.

The FAA's statements regarding cost are completely inconsistent with the information contained in the FAA-Industry Transponder Task Force Report. The FAA has apparently based their Cost / Benefit Analysis upon alteration of a single Mode-S transponder using a software change only cost figure. Most of the affected aircraft are equipped with two (2) Mode-S transponders, which are fully redundant, and would therefore both require alteration. Further, the FAA based their assessment on a per unit cost of \$3,000 dollars (in 2002 monies) which is approximately 8% less than this operators lowest quote from its transponder vendor, and up to 66% less than the quote for older Mode-S transponder part numbers.

ATA disagrees with the FAA's statement that the "update could be accomplished in about 5 minutes". Many years of experience in performing such alterations in full compliance with the FARs suggests a minimum of 1.5 man-hours per altered LRU will be required, with two LRUs per aircraft. It should be noted that the figure of 1.5 hours does not address shop labor, only labor expended at the Type Design level. ATA does not have an "abundance" of transponders of the desirable part number therefore this statement is irrelevant. It is interesting to note however that the FAA is apparently ignoring costs incurred at all levels of the repair and alteration chain, as the cost of alteration would not appreciably change whether the alteration is performed on board the aircraft, or in a shop environment.

Submitter's general comments:

The statements and rationale the FAA has made in the "Initial Economic Evaluation, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment" section of the NPRM disturb ATA. ATA is also discouraged by the FAA's apparent disregard for the work of the FAA-Industry Transponder Task Force Report, and its conclusions.

ATA is concerned that even though over fourteen (14) months elapsed between the release of the FAA-Industry Transponder Task Force Report, and the publication of the subject proposal, additional clarification of the costs of compliance was not obtained by the FAA, even though such costing information was readily available from avionics original equipment manufacturers. Further, ATA has attempted in good faith to obtain alteration costs estimates from one of our airframe original equipment manufacturers for the "single action", "secure power", and "annunciation" elements of the proposed rule. ATA has been unable to obtain estimates for these alterations from this airframe original equipment manufacturer, with one of the reasons provided being the number of configuration permutations possible. ATA finds the FAA's failure to update its cost information strange, as a meaningful FAA cost benefit analysis would be expected to have included cost estimates to address these alterations from major U.S. airframe Type Design holders, especially since they exceeded the assumed alterations included in the FAA-Industry Transponder Task Force Report.

ATA has previously commented upon the specific compliance date proposed. ATA must also comment that the proposal as written is unacceptable as it places all burdens for system design, certification, production and installation risk upon the Operator. In the absence of explicit design rule making or guidance material, several aspects of the proposed rule will be troublesome during certification. As such, all schedule slips that occur during the design, certification, or production stages will flow through to the Operator. This places an unacceptable and undue burden upon the Operator.

ATA recommends that any Final Rule, which might emanate from this proposal clearly subdivide the design, and certification, of compliant installations. ATA further recommends that no Final Rule be published until the FAA is able to produce guidance material, which clearly addresses the issues raised by the "secure power" element of this proposal, and provides clear and consistent guidance to Aircraft Certification Offices on the application of the guidance material.

The issues and difficulties, which arise from the FAA failing to address the design, and certification aspects of alterations such as those proposed, have been clearly documented. An excellent and relevant recent case is that of the Phase II Flight Deck door redesign initiated by the expiration of SFAR 92. Fully three (3) months elapsed between issuance of SFAR 92, and the initial issuance of FAA Certification guidance material for the two critical changes in door design criteria (Advisory Circulars 25.795-1, and 25.795-2). Even more egregious was the continually moving yard stick applied to designs, exemplified by the revision to FAA Policy Memorandum (01-115-11) setting forth the design and certification criteria to be applied to Amendment 25-106 compliant Flight Deck door designs, as late as May 28th, 2002 fully seven months after the issuance of SFAR 92 and five (5) months after release of Amendment 25-106 to the FARs.

For a rule making action which only provided a total of approximately eighteen (18) months between rule issuance and full installation compliance, the FAA's actions resulted in the loss of a minimum of 16% of available design, certification, and production time up to a maximum (for those designs impacted by the changes to FAA Policy Memorandum [01-115-11] in late May 2002) of 38%. For rule making of such magnitude, this is an unacceptable loss of time, which negatively impacted Operators ability to comply with the rule changes and increased costs. ATA therefore objects to the proposed rule in its current form, and suggests that coordinated design rules be an integral component of any Final Rule, which requires Type Design holders to develop rule compliant installations for aircraft produced after a date, which precedes the Operators installation date by at least forty-eight (48) months.

ATA must reiterate that we find the FAA's cost / benefit analysis to be suspect. ATA cannot, without detailed information being provided on the costs and benefits assigned to various elements of the proposal, determine if the FAA has applied proper credit for the installation of Amendment 25-106 compliant door installations. It is ATA's position that the installation of Amendment 25-106 compliant doors result in a substantial reduction of the benefits which can be assigned to the proposed alteration of transponder systems, as the efficacy of a blitzkrieg type attack, as occurred on September 11th, 2001, is substantially impaired allowing flight crews adequate time to initiate transmission of Mode A code 7500. Operators also cannot make an assessment of this proposal relative to previous rule making, or future rule making alluded to in this proposal, without knowing what additional actions the FAA plans or the design and certification criteria, which will be applied to the remaining "series" of "security initiatives".

As noted previously there is a clear disparity between the FAA's cost data for transponder software alterations, and the cost data contained in the FAA-Industry Transponder Task Force Report. This disparity is even greater when more recent, approximately one (1) month more recent that the FAA-Industry Transponder Task Force Report, information is calculated in. Specifically, for the transponder original equipment manufacturer units installed in the majority of ATA's fleet the following cost data has been provided.



Note that for ATA's older –1301 transponders, the alteration at the Line Replaceable Unit level will total \$21,400 for a ship set. This does not include labor costs for transponder installation, or test, at the airframe level. Obviously this is a far cry from the "approximately \$3,000 for each airplane" stated in the NPRM. A disparity of this magnitude, a factor of seven (7), must obviously bring into question the validity of the entire cost / benefit analysis performed by the FAA.

ATA is under the belief, supported by a major ATM equipment and services provider, that existing ATC systems downgrade the automatic tracking of airplanes that are not on their assigned transponder code and deviate from track. These are precisely the type of tracks that ATC Systems should highlight, not downgrade, particularly in the absence of voice communications. A track-highlighting concept would apply to any traffic, not just airplanes operating under Part 121, and it would not rely on the presence of a friendly/cooperative flight crew in the airplane to communicate the situation. Such a change to Federal Government systems in lieu of this proposal would eliminate the unfunded mandate effect upon the private sector, while increasing the overall effectiveness in radar-controlled airspace.

In the interest of national security, the FAA mandated and air carriers installed, intrusion and ballistically resistant flight deck doors. Government funding (\$13,200 per airplane) was provided with the original intent of covering the majority of the costs of installation. However, it has since been acknowledged by government and industry that actual costs far exceeded the funding provided. The Air Transport Association has stated that parts

and labor have averaged \$44,700 per airplane, with the actual out-of-service time incurred increasing actual costs to \$96,700 per airplane. ATA seeks a return on our investment in Amendment 25-106 compliant doors, and submit that the proposed unfunded security modification of transponders is unjustified due to its low potential to add value, and incomplete applicability to all relevant aircraft.

Attachment: Cost estimate table for ATA

CC: File; D. Kline; Air Transport Association

Sincerely,

J.D. Warph

James (J.D.) Wampler
Manager, Avionics / Systems Engineering
American Trans Air
7337 West Washington St. Bldg. 4 Cube 2-52
Mail Stop HDQNA/4

Indianapolis, IN 46251-0609

Phone: 317-282-5800 FAX: 317-282-5709 INTERNET E-mail: JD.Wampler@iflyata.com

					Add columns as necessary >>	
	Fleet Type A	Fleet Type B	Fleet Type C	Fleet Type D	Fleet Type E	Fleet Type F
Fleet Type (ie, airplane model-series)	<u>737-83N</u>	<u>757-23N</u>	<u>757-28A</u>	<u>757-33N</u>	<u>L1011-385-1X</u>	<u>L1011-385-3</u>
Inventory (No. of airplanes)	30 Note 1	14	1	12	3	5
Method of Implementation the Proposed Rule	Method 1. OEM Note 2	Method 1. OEM Note 2	Method 1. OEM / STC	Method 1, OEM Note 2	Method 1, STC	Method 1, STC
(eg, TTF Report Method 1, 2, or 3; supplier, etc)	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,		,	, , , , , , , , , , , , , , , , , , , ,	, ,
Transponder Modification Costs (per airplane)			<u>, </u>			
Cost per unit (include design & certification costs.)	7000 Note 3	7000 Note 3	7000 Note 3	7000 Note 3	21400 Note 3	7000 Note 3
Costs of Other Hardware (per airplane)						
Cost per unit (include design & certification costs.)						
Remotely Located Transponder Control Device						
Avionica "Transponder Lock"						
Piece parts (eg, wiring, switches, control panels, etc)	\$500	\$500	\$500	\$500	\$500	\$500
"Hardware" Cost Total	7555	7	7	7000		7777
Airplana Madification Design 9 Cartification Costs (nor floot type 9	mothod)					
Airplane Modification Design & Certification Costs (per fleet type &	method)					
Cost of NRE for service instructions and certification (\$)	\$40,000	\$40,000	\$40,000	\$40.000	\$10.000	\$10,000
Hijack Mode Activation Switch(es) Mod				, ,, , , , , , , , , , , , , , , , , , ,	1 - /	
Rewiring / Protecting Power Circuitry Mod	\$80,000	\$80,000	\$80,000	\$80,000	\$15,000	\$15,000
Hijack Mode Annunciator(s) Mod Other Mods	\$20,000	\$20,000	\$20,000	\$20,000	\$10,000	\$10,000
Design & Certification Cost Total Note 6	\$140,000	\$140,000	\$140,000	\$140,000	\$35,000	\$35,000
Design & Certification Cost Total Note of	\$140,000	φ1 4 0,000	\$140,000	\$140,000	φ33,000	\$33,000
Installation Costs (per airplane)						
Workhours - Hijack Mode Activation Switch(es)	50	50	50	50	75	75
Workhours - Rewiring/Protecting Power Circuitry	150	150	150	150	200	200
Workhours - Hijack Mode Annunciator(s)	50	50	50	50	50	50
Workhours - Other Mods						
Total Workhours	250	250	250	250	325	325
Labor rate (\$)	\$42	\$42	\$42	\$42	\$42	\$42
Installation Cost	\$10,500	\$10,500	\$10,500	\$10,500	\$13,650	\$13,650
Impact of Time Out-of-Service (per airplane)						
Elapsed Days Out-of-Service (per airplane)	2.5	2.5	2.5	2.5	3	3
Elapsed Days Out-of-Service to Install the Modifications	2.0	2.5	2.5	2.0	<u> </u>	3
No. of airplanes that could not be completely modified during						
scheduled maintenance visits w/24 mo. compliance period:	15 Note 4	7 Note 4	0	6 Note 4	2	3
			<u>. </u>		=	
Unscheduled Days Out-of-Service w/24 mo. compliance period:	37.5	17.5		15	6	9
No. of airplanes that could not be modified during scheduled	20	4.4	1	12		
maintenance visit periods w/36 mo. compliance period	30	14	1	12	3	5
Unscheduled Days Out-of-Service w/36 mo. compliance period	0	0	0	0	0	0
				•		
Recurring Maintenance Costs (per airplane)	0 11 1 5	0.11.5	0.11.5	0 No. / 5	0.11-1-7	1 0 1 1 7
Workhours/year/airplane (hours)	8 Note 5	8 Note 5	8 Note 5	8 Note 5	8 Note 5	8 Note 5
Labor rate (\$)	\$42	\$42	\$42	\$42	\$42	\$42

Add columns as necessary >>

Note1: American Trans Air (ATA) will continue to take deliveries over the next 24 months, resulting in up to 39 737-83N aircraft having to be modified.

Note 2: Installation of a compliant transponder, alteration of the aircraft to meet the power supply changes, "single action" hijack code activation, and hijack mode annunciator provisions is predicated upon acquisition of contracted airframe OEM service documents. Based upon prior historical precedent, a minimum of twelve (12) months will be required between contract signing and delivery of the final FAA Approved service document.

Note 3: Transponder alteration cost is based upon a \$3,500 charge per transponder for installed -1601 units, and \$10,700 for -1301 units.

Note 4: This estimate is based upon the Final Rule stipulating 24 months after publishing in the Federal Register, and delivery of the OEM service documents within 12 months of contracting for the change.

Note 5: This estimate is ONLY for additional transponder system testing associated with the "continuous transponder operation" required changes, if performed at a "C" check interval of 13 to 18 months. Recognized requirements for test include funtionality of the "single action" switches installed at all locations, the annunciator, and verification of the hidden failure mode imposed by the power supply alterations.

Note 6: The estimates provided are based upon historical precedents for contracted alterations for items of similar scope. ATA has requested rough order of magnitude estimates from The Boeing Compa Technical Services & Modification division to comply with the provisions of the NPRM. ATA made our request January 15th, 2003, as of Marth 3rd, 2003 The Boeing Company has been unable to provide qoute to ATA.